KUMARAGURU college of technology
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Register Number:………….…

M.TECH DEGREE EXAMINATIONS: DEC 2015

(Regulation 2014)

Third Semester

TEXTILE TECHNOLOGY

P14TX*T*301: Research Methodology

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 1 = 10 Marks)

1. ------ research is an initial research which analyses the data and finds the possibility of   CO1   [K1]
    obtaining as many relationships as possible between variables wit out knowing their
    end applications.

    a) Exploratory   b) Conclusive

    c) Descriptive   d) Experimental

2. ---- scale is used to convert raw data obtained using quantitative judgment procedure in   CO1   [K1]
    to interval scale data

    a) Likert   b) Guttmann

    c) Q sort   d) Osgood's differential

3. Which of the following is not one of the seven major part s to the research report?   CO1   [K1]

    a) Results   b) Abstract

    c) Method   d) Footnotes

4. Match the following   CO1   [K1]

List I	**List II**
A. Cluster sample	i. Non probability sampling
B. Regression equation	ii. primary data
C. judgment sample	iii. probability sampling
D. observation method	iv. symbolic model

	A	B	C	D
a)	iii	iv	i	ii
b)	i	ii	iii	iv
c)	iv	iii	ii	i
d)	iii	ii	iv	i

5. Assertion (A): Research design is needed because it facilitate the smooth sailing of the various research operations.

   Reason (R): Research design makes the research as efficient as possible yielding maximal information with minimal expenditure of effort time and money

   CO1 [K1]

   a) **A** is true and **R** is wrong
   b) **A** and **R** is true
   c) **A** is wrong and **R** is true
   d) **A** and **R** is wrong

6. ----- is the research includes surveys and fact finding enquires of different kinds.

   CO1 [K1]

   a) Applied
   b) Quantitative
   c) Descriptive
   d) Conceptual

7. Among the following ----- design is the formal experimental design.

   CO1 [K1]

   a) After only with control
   b) Factorial
   c) Before and after with control
   d) Before and after without control

8. Assertion (A): Type I error is the probability of rejecting the null hypothesis when it is true

   Reason (R): It is the probability of rejecting a good lot

   CO1 [K1]

   a) **A** is true and **R** is wrong
   b) **A** and **R** is true
   c) **A** is wrong and **R** is true
   d) **A** and **R** is wrong

9. Testing hypothesis is a _____

   CO1 [K1]

   a) Inferential statistics
   b) Descriptive statistics
   c) Data preparation
   d) Data analysis

10. The research design process sequence is

    1. Selection of research approach

    2. Design of experiment

    3. Design of sampling plan

    4. Design of questionnaire

    CO1 [K1]

    a) 1-2-3-4
    b) 1-3-2-4
    c) 4-3-2-1
    d) 3-2-1-4

PART B (10 x 2 = 20 Marks)

11.	What is literature survey?	CO1	[K1]
12.	What is algorithmic research?	CO1	[K1]
13.	What is extraneous variable?	CO1	[K1]
14.	What is completely randomized design?	CO1	[K1]
15.	What do you mean by controlled and uncontrolled observation?	CO1	[K1]

16.	Compare nominal scale with ordinal scale.	CO2	[K2]
17.	What is null hypothesis?	CO1	[K1]
18.	What do you mean by two tailed test in hypotheses testing?	CO2	[K2]
19.	What is interpretation in research methodology?	CO1	[K1]
20.	What is popular report?	CO1	[K1]

PART C (10 x 5 = 50 Marks)

21.	Explain the various mathematical tools used for analysis in research.	CO2	[K3]
22.	Discuss briefly the different steps involved in a research process.	CO3	[K2]
23.	Compare statistical design and operational design	CO2	[K2]
24.	What is Latin square design? Explain briefly.	CO3	[K3]
25.	Explain the construction of Q sort scale	CO3	[K3]
26.	Estimate the Guttmann's coefficient of reproducibility if number of cases is 25, number of items is 5 and number of errors is 7.	CO3	[K3]
27.	The specimen of rope yarn drawn from a large lot has the following breaking strength (kg) 578,572,570,568,572,578,570,572,596,544 Test whether the mean breaking strength of the lot may be taken to be 578 Kg. (Test at 5% level of significance)	CO5	[K4]
28.	A certain sample of garment had been produced for some time, and the masses of the finished garments were known to have a mean of 260g and a variance of 64g. A modification was made to the finishing procedure and a sample of 40 garments finished by the new process had a mean of 263g. Is this sufficient evidence to conclude that the new finishing procedure reduced the mean loss during finishing.(test at 0.05 level of significance)	CO5	[K5]
29.	Discuss the guidelines for reviewing research report.	CO5	[K3]
30.	What is bibliography? State its importance in context of research report.	CO3	[K3]

PART D (2 x 10 = 20 Marks)

31. The following are the results of extension test carried out on two types of yarn (% of extension at break)   CO5   [K5]

| Yarn A | 14.1 | 14.7 | 15.1 | 14.3 | 15.6 | 14.8 |
| Yarn B | 16.9 | 16.3 | 15.9 | 15.7 | 15.7 | - |

Determine whether these results suggest that one yarn is significantly more extensible than the other. (Use 0.05 significance level)

32. Explain the significance of report writing and narrate the various steps involved in writing a report. CO4   [K3]

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